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FEB 25 1965

CURRENT SERIAL RECORDS

States

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
MONTANA

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE,
and
MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State, and private organizations listed on the inside back cover of this report.

AS OF
FEB. 1, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Soil Conservation Service, 511 N.W. Broadway - Room 507, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
RIVER BASINS			
WESTERN UNITED STATES _____	MONTHLY (FEB.-MAY) _____	PORTLAND, OREGON _____	ALL COOPERATORS
BASIC DATA SUMMARY _____	OCTOBER 1 _____	PORTLAND, OREGON _____	ALL COOPERATORS
STATES			
ALASKA _____	MONTHLY (MAR.-MAY) _____	PALMER, ALASKA _____	ALASKA S.C.D.
ARIZONA _____	SEMI-MONTHLY (JAN. 15 - APR. 1) _____	PHOENIX, ARIZONA _____	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO _____	MONTHLY (FEB.-MAY) _____	FORT COLLINS, COLORADO _____	COLO. STATE UNIVERSITY COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO _____	MONTHLY (JAN.-JUNE) _____	BOISE, IDAHO _____	IDAHO STATE RECLAMATION ENGINEER
MONTANA _____	MONTHLY (JAN.-JUNE) _____	BOZEMAN, MONTANA _____	MONT. AGR. EXP. STATION
NEVADA _____	MONTHLY (JAN.-MAY) _____	RENO, NEVADA _____	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES DIVISION OF WATER RESOURCES
OREGON _____	MONTHLY (JAN.-JUNE) _____	PORTLAND, OREGON _____	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
UTAH _____	MONTHLY (JAN.-JUNE) _____	SALT LAKE CITY, UTAH _____	UTAH STATE ENGINEER
WASHINGTON _____	MONTHLY (FEB.-JUNE) _____	SPOKANE, WASHINGTON _____	WN. STATE DEPT. OF CONSERVATION
WYOMING _____	MONTHLY (FEB.-JUNE) _____	CASPER, WYOMING _____	WYOMING STATE ENGINEER

PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA _____	MONTHLY (FEB.-JUNE) _____	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA _____	MONTHLY (FEB.-MAY) _____	CALIF. DEPT. OF WATER RESOURCES, P.O. Box 388, SACRAMENTO, CALIF.

WATER SUPPLY OUTLOOK
FEDERAL-STATE-PRIVATE COOPERATIVE SNOW SURVEYS
for
MONTANA

Report Prepared
By
Phillip E. Farnes
and
Stanley E. Cook

Snow Survey and Water Supply Forecasting Branch
Soil Conservation Service
Box 855
Bozeman, Montana

Issued By

H. D. Hurd
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Soil Conservation Service
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J. A. Asleson, Director
Montana Agricultural
Experiment Station
Bozeman, Montana



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MONTANA
WATER SUPPLY OUTLOOK
as of
February 1, 1965

* * * * *

* Many high elevation snow courses in the *
* southern portion of the state have *
* February 1 water contents that are maxi- *
* mum or near maximum on record. Almost *
* all snow courses in the state are above *
* average. Continuous heavy mountain *
* precipitation from the headwaters of the *
* Missouri and Yellowstone Rivers during *
* the next few months could produce runoff *
* in excess of previous maximums. *
* * * * *

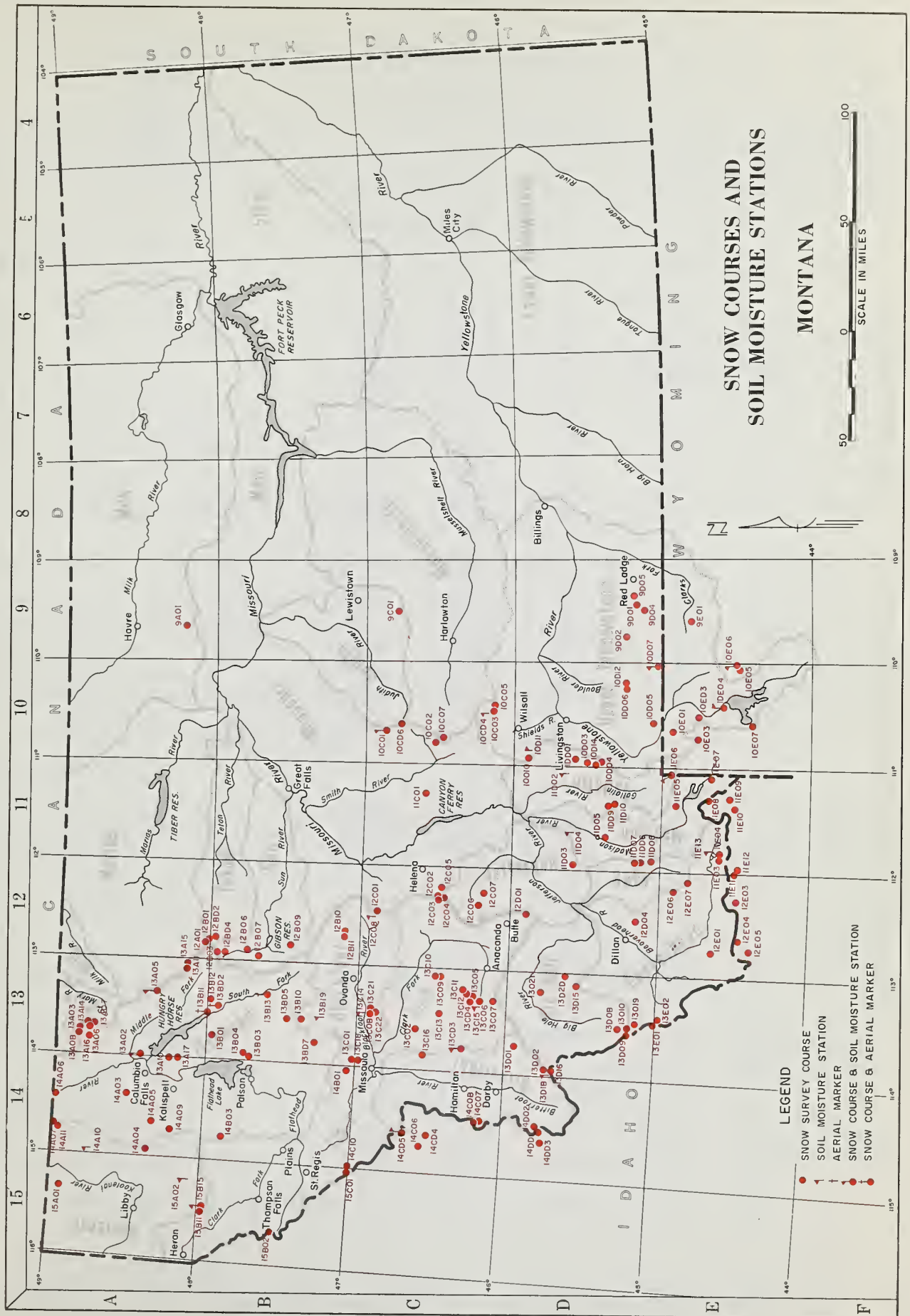
Snow accumulation west of the divide is presently near the April 1 average except in the Kootenai where snow is only 20 percent above last year and 105 percent average. Snow cover on other Columbia River tributaries varies from about 25 percent above average in the Flathead River drainage to 50 percent above average in the Bitterroot. The Clark Fork drainage is about 35 percent above the 1948-62 average. These amounts are 30 to 50 percent greater than was measured last year at this time.

East of the divide, record or near record water equivalents have been recorded at many high elevation snow courses in the headwaters of the Missouri and Yellowstone drainages. Snow courses located on tributaries to the main stem of the Missouri River have not received as much heavy precipitation and are about 25 percent above last year and 40 percent above the 15 year average. Snow cover in the Jefferson River drainage is 177 percent of last year and 60 percent above average. The Madison River drainage has a snow accumulation that is 90 percent more than last year and 80 percent above average. In the Gallatin the snow pack is 80 percent above last year and 65 percent above average. In the headwaters of the Yellowstone River drainage the snow pack is 194 percent of last year and 172 percent average.

Even if mountain precipitation is below average for the remainder of the season, runoff from mountain streams would still be near average. If the present trend of heavy precipitation at high elevations continues, runoff will be near maximum of record.

Mountain soil moisture is not changed from last month and remains generally above average at lower elevations and near to below average at higher elevations.

A more complete picture of the water supply outlook will be obtained next month when all snow courses are measured.



1965 INDEX to MONTANA SNOW COURSES and SOIL MOISTURE STATIONS

SNOW COURSES

SOIL MOISTURE STATIONS

Drainage Basin & Course Name	Number	Elev.	Sec.	Top.	Range	Record Begin	Measuring Dates	Notes
COLUMBIA RIVER BASIN								
KOOTENAI RIVER								
Baree Creek	13811	5500	36	26N	31W	1966	3,4,5,5,6	2
Baree Trail	12815	3800	5	25N	30W	1964	3,4,5,5,6	2
Murphy Lake R. S.	14410	5000	12	30N	25W	1937	3,4,5,5,6	1,2
Gravies Creek	14411	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14412	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14413	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14414	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14415	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14416	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14417	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14418	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14419	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14420	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14421	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14422	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14423	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14424	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14425	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14426	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14427	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14428	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14429	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14430	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14431	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14432	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14433	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14434	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14435	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14436	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14437	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14438	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14439	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14440	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14441	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14442	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14443	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14444	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14445	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14446	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14447	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14448	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14449	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14450	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14451	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14452	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14453	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14454	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14455	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14456	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14457	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14458	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14459	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14460	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14461	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14462	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14463	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14464	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14465	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14466	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14467	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14468	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14469	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14470	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14471	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14472	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14473	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14474	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14475	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14476	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14477	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14478	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14479	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14480	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14481	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14482	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14483	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14484	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14485	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14486	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14487	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14488	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14489	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14490	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14491	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14492	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14493	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14494	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14495	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14496	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14497	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14498	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14499	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14500	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14501	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14502	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14503	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14504	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14505	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14506	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14507	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14508	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14509	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14510	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14511	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14512	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14513	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14514	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14515	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14516	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14517	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14518	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14519	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14520	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14521	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14522	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14523	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14524	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14525	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14526	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14527	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14528	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14529	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14530	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14531	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14532	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14533	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14534	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14535	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14536	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14537	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14538	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14539	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14540	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14541	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14542	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14543	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14544	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14545	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14546	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14547	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14548	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14549	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14550	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14551	4300	1	36N	25W	1965	3,4,5,5,6	1,2
Gravies Creek	14552	4300						

SNOW SURVEY DATA

AS OF FEBRUARY 1, 1965

(inches)

SNOW COURSE			CURRENT DATA			PAST RECORD	
NO.	NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
						LAST YEAR	AVERAGE

COLUMBIA RIVER BASIN

KOOTENAI RIVER

BC 10	Fernie	3500	1/29	42	11.6	7.0	7.3
BC12A	Field	4200	1/30	30	6.9	4.1	5.1
BC 11	Glacier	4100	1/28	59	15.1	19.5	19.6
BC 43	Gray Creek	5100	1/31	52	13.6	11.9	12.6*
BC 33	Kicking Horse	5400	1/26	42	10.7	9.7	10.8
BC 32	Marble Canyon	5000	2/1	45	11.1	9.1	11.1
BC 10B	Morrissey Ridge	6100	1/29	72	22.4	24.5	-
BC 10A	New Fernie	4100	1/29	52	14.3	6.3	10.8*
BC 8A	Sinclair Pass	4500	1/27	21	4.4	3.8	4.6*
BC 20A	Sullivan Mine	5100	1/28	40	10.8	8.2	9.5

FLATHEAD RIVER

13A02	Desert Mountain	5600	1/29	56	16.2	10.8	10.8*
14A03	Hell Roaring Divide	5770	1/28	83	28.5	20.2	-
13B13	Holbrook	4530	2/1	39	9.8A	6.2	7.7*
13A05	Marias Pass	5250	1/28	57	15.3	10.2	12.9
13B02	Spotted Bear Mountain	7000	2/2	45	13.0A	7.4	11.2*
13B11	Twin Creeks	3580				8.6	9.8*

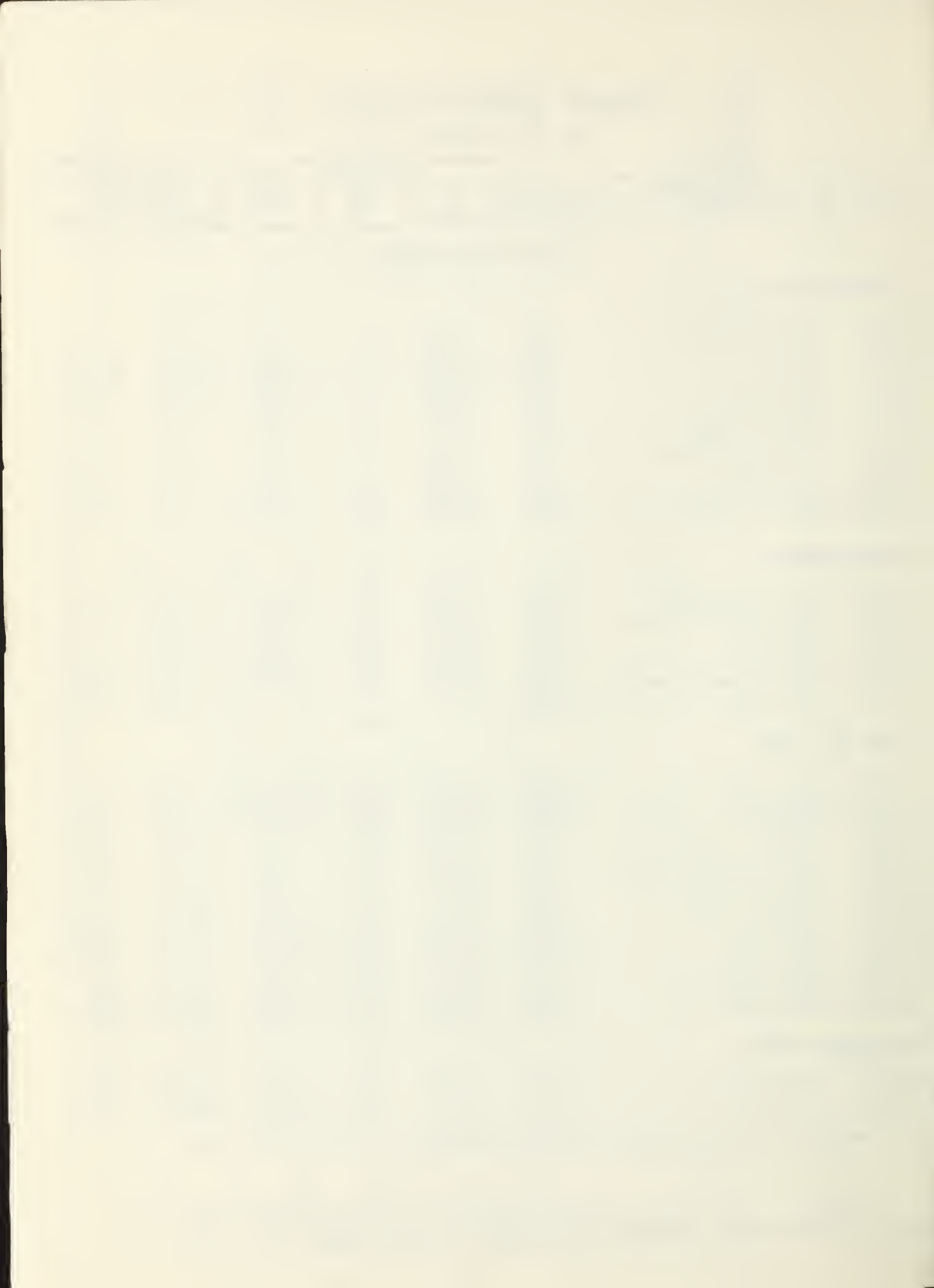
CLARK FORK RIVER

13B10	Coyote Hill	4200	1/29	45	10.2	6.7	7.8*
13C04	Intergaard	6450	2/1	34	8.4	4.9	5.4
15B02	Lookout	5250	1/27	101	27.7	26.7	26.4
13C21	Lubrecht Forest No. 3	5450	1/30	35	7.0	8.6	5.8*
13C22	Lubrecht Forest No. 4	4650	1/30	19	4.6	4.0	2.9*
13C08	Lubrecht Forest No. 6	4040	1/30	18	4.8	4.3	3.6*
13C05	Southern Cross	6500	2/1	29	6.6	4.1	4.3
13C18	Spring Gulch	6000	1/30	54	14.0	9.0	8.8*
13C07	Storm Lake	7780	1/29	50	12.9	7.0	8.9*
13C06	Stuart Mill	6500	2/1	30	6.4	4.8	4.4
13C01	Stuart Mountain	7400	1/30	88	31.4	22.1	21.9*
14B01	TV Mountain	6800	1/31	64	15.9	10.6	11.7*

BITTERROOT RIVER

13D02	Gibbons Pass	7100	1/28	83	23.8	16.8	15.7*
13D16	Moose Creek	6200	1/28	67	17.0	14.0	11.4*

A - Aerial observation - water content estimated.



SNOW SURVEY DATA

AS OF FEBRUARY 1, 1965

SNOW COURSE			CURRENT DATA			PAST RECORD	
			DATE OF SURVEY	SNOW DEPTH	WATER CONTENT	WATER CONTENT	
NO.	NAME	ELEVATION				LAST YEAR	AVERAGE

(Inches)

MISSOURI RIVER BASIN

BEAVERHEAD RIVER

12E03	Camp Creek	6800	1/29	44	13.3	5.0	6.5
12D04	Carter Creek	7400	1/30	23	4.5	-	-
11E12	Kilgore	6200	1/28	39	10.6	6.0	6.4

JEFFERSON RIVER

12C06	Picnic Grounds	6500	2/1	19	3.3	3.0	3.3
12D01	Pipestone Pass	7200	1/28	18	3.4	3.2	3.3*

MADISON RIVER

11E09	Big Springs	6500	1/28	81	22.2	11.4	13.7
11E05	Hebgen Dam	6550	1/29	56	12.6	7.2	8.1
11E10	Island Park	6315	1/29	73	19.4	8.7	10.8
10E02	Norris Basin	7500	1/30	54	11.5	8.5	6.9*
11E08	Valley View	6500	1/29	76	23.5	11.5	9.6
11E07	West Yellowstone	6700	1/28	55	13.4	6.8	7.8

GALLATIN RIVER

10D14	Arch Falls	7350	1/30	44	10.6	6.4	-
10D04	Devil's Slide	8100	1/30	77	21.8	11.9	12.7*
10D03	Hood Meadow	6600	1/30	38	8.4	4.6	5.5*
10D01	New World	6700	1/27	32	7.7	6.2	6.6
11E06	Twenty-One Mile	7150	1/29	82	23.1	11.0	12.1

MISSOURI RIVER (Main Stem)

12C05	Chessman Reservoir	6200	1/4	14	3.1	-	3.1
12C02	Ten Mile Lower	6250	2/3	28	6.2	5.4	4.9
13C03	Ten Mile Middle	6800	2/3	42	9.8	7.8	7.3
12C04	Ten Mile Upper	8000	2/2	49	13.3	10.4	9.1

UPPER YELLOWSTONE RIVER

10E03	Canyon	7750	1/29	74	21.7	10.0	9.4
10E06	East Entrance	7000	2/1	42	10.4	6.8	7.9*
9D05	Grizzly Peak	8400	1/28	50	9.8	4.1	-
10E04	Lake Camp	7850	1/28	49	10.9	4.4	6.5*
9E01	Lodgepole	8200	2/1	40	10.0	6.7	6.6*
10E01	Lupine Creek	7300	1/30	47	10.4	6.0	7.3
10D07	Northeast Entrance	7400	1/30	45	10.4	5.4	5.8
10E05	Sylvan Pass	7100	2/1	54	16.0	8.8	9.3*
10E07	Thumb Divide	7900	1/31	80	27.3	11.8	14.4*



SOIL MOISTURE DATA

AS OF FEBRUARY 1, 1965

(Inches)

SOIL MOISTURE STATION			SOIL PROFILE		CURRENT DATA		PAST RECORD	
NO.	NAME	ELEVATION	DEPTH	FIELD CAPACITY	DATE OF SURVEY	SOIL MOISTURE	LAST YEAR	**AVERAGE

COLUMBIA RIVER BASIN

Kootenai

15B15M	Baree Trail	3800	48	7.5	Not measured	-	-
14A10M	Murphy Lake R.S.	3000	48	22.6	2/1	19.6	-
15A02M	Raven R.S.	3050	48	23.0			

Flathead

13A02M	Desert Mountain	5600	54	8.4	1/29	7.1	5.8	6.8
13A05M	Marias Pass	5250	54	6.5			4.4	5.0

Clark Fork

13C15M	Georgetown Lake	6450	48	9.0*	1/29	2.6	2.4	-
13B19M	Seeley Lake	4030	48	11.9*	2/1	7.5	1.6	-
13C03M	Skalkaho Summit	7260	48	10.8	Not measured		-	-

Bitterroot

13D18M	Gibbons Pass	7100	48	7.1	1/28	5.5	5.5	-
14C05M	Lolo Pass	5250	48	10.6*	1/28	7.7	5.2	-

MISSOURI RIVER BASIN

Beaverhead

11E13M	Lakeview	6700	48	15.3			8.3	-
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Madison

10D04M	Red Bluff	4800	40	4.7	1/30	2.3	1.5	-
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Gallatin

11D02M	College Site	4856	54	14.5	1/29	10.0	6.8	8.7
11E06M	Twenty-One Mile	7150	48	8.8	1/28	1.5	3.8	-

Missouri Main Stem

10C01M	Kings Hill	7420	48	11.8	1/28	7.8	7.7	-
12C08M	Stemple Pass	6350	48	5.9	2/1	4.2	3.9	-

Yellowstone

10D11M	Battle Ridge	6020	48	17.6*	2/1	15.3	9.3	-
10D07M	Northeast Entrance	7350	48	9.4	1/30	5.8	7.9	-



RESERVOIR STORAGE DATA

AS OF JANUARY 31, 1965

(1000 Acre Feet)

BASIN	RESERVOIR	USEABLE CAPACITY	USEABLE STORAGE		
			THIS YEAR	LAST YEAR	AVERAGE

COLUMBIA RIVER BASIN

Flathead	Hungry Horse	3,428.0	2,811.0	2,450.0	2,693.4**
	Flathead Lake	1,791.0	1,384.0	1,591.0	1,042.9
	Camas 1/	45.2	18.8	17.9	30.4
	Mission Valley 2/	100.3	36.5	17.4	31.9
Clark Fork	Georgetown Lake	31.0	29.6	28.9	24.5
Bitterroot	Noxon Rapids	334.6	331.0	297.9	-
	Como	34.9	12.0	5.3	10.8
	Painted Rocks	31.7	-	22.8	14.0**

MISSOURI RIVER BASIN

Beaverhead	Clark Canyon	-	64.8	-	-
	Lima	84.0	-	-	26.0
Ruby	Ruby	38.8	-	-	18.4**
Madison	Hebgen Lake	384.8	220.8	211.3	180.4
	Ennis Lake	41.0	37.1	39.2	36.8
Gallatin	Middle Creek	8.0	3.7	2.9	3.3**
Missouri	Canyon Ferry	2,043.0	1,831.0	1,732.0	1,553.9**
	Hauser & Helena	61.9	59.6	48.9	51.8
	Lake Helena	10.4	9.6	6.0	7.2
	Holter Lake	81.9	63.5	56.9	59.6
	Smith River	10.7	8.5	7.4	5.2**
	Ackley Lake	5.8	-	-	3.8
	Durand	7.0	5.5	3.9	3.9**
	Martinsdale	23.1	7.6	8.2	8.5**
	Deadman's Basin	72.2	43.0	48.2	39.5**
	Fort Peck	19,138.0	15,290.0	11,720.0	10,575.1
Sun	Gibson	105.0	46.2	16.4	55.7
	Willow Creek	32.3	15.6	21.0	18.6
	Pishkun	32.0	17.4	17.5	19.2
Marias	Lower Two Medicine	16.6	-	-	0.0
	Four Horns	19.2	-	-	9.1
	Swift	30.0	-	10.3	19.9
	Lake Francis	112.0	-	33.2	91.7
	Tiber	1,313.0	657.3	642.8	628.0**
Milk	Fresno	127.2	64.4	39.8	59.4
	Nelson	66.8	36.7	33.2	36.7
	Lake Sherburne	66.1	-	15.5	18.4
Yellowstone	Mystic Lake	20.8	11.8	11.2	10.7
	Tongue River	68.0	-	40.7	11.6**
	Cooney	27.5	14.5	16.2	10.8**

1/ Sum of four small reservoirs on west side of Flathead Lake.

2/ Sum of eight small reservoirs in Mission Valley not including Jocko Lake.

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NOTE: ALL AVERAGES BASED ON 1948-1962 (15 YEAR PERIOD).

**AVERAGE FOR PERIOD OF RECORD

Agencies Cooperating in Collecting Data Contained in this Bulletin

- | | |
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| U. S. Forest Service
Region I, Missoula, Montana | Montana Experiment Station
Montana State College
Bozeman, Montana |
| U. S. Geological Survey
Helena, Montana | Bonneville Power Administration
Portland, Oregon |
| U. S. Army Corps of Engineers
Portland, Oregon
Seattle, Washington
Omaha, Nebraska | Montana State University
School of Forestry
Missoula, Montana |
| U. S. Indian Irrigation Service
St. Ignatius, Montana | Soil Conservation Service
Montana, Wyoming, Idaho |
| U. S. Weather Bureau
Helena, Montana | Soil and Water Conservation Districts
Montana Counties |
| U. S. Bureau of Sports Fisheries
and Wildlife
Red Rock Lakes Refuge
Monida, Montana | Johnson Flying Service, Inc.
Missoula, Montana |
| U. S. Bureau of Reclamation
Billings, Montana
Boise, Idaho | Water Rights Branch, Dept.
of Lands and Forests
Victoria, British Columbia |
| Montana Power Company
Butte, Montana | Department of Northern Affairs
and National Resources
Calgary, Alberta |
| Agricultural Experiment Station
North Montana Branch Station
Havre, Montana | State Engineer
Helena, Montana |
| State Water Conservation Board
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